Macrothemis brevidens, a new species from Surinam (Odonata: Libellulidae)

by

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ABSTRACT. — *Macrothemis brevidens* spec. nov. is described from Surinam on the basis of two males and one female. The new species belongs to the *tessellata* group, having the tooth on the tarsal claws shorter than the tip of the claw itself. The validity of the genus *Gynothemis* Calvert is briefly discussed.

Macrothemis brevidens spec. nov. (figures 1-9)

Material. — Surinam: Stondansi, 22.IX.1962, 1 ♂ (holotype); Benzdorp, 9.XI.1960, 1 ♂ (paratype); Benzdorp, 17.XI.1960, 1 ♀ (allotype), all specimens J. Belle leg.; in the author's collection.

Male (holotype). — Total length 31.5 mm; abdomen 22.5 mm (incl. caud. app. 1.9 mm); hind wing 23.5 mm; costal edge of pterostigma in fore wing 1.5 mm.

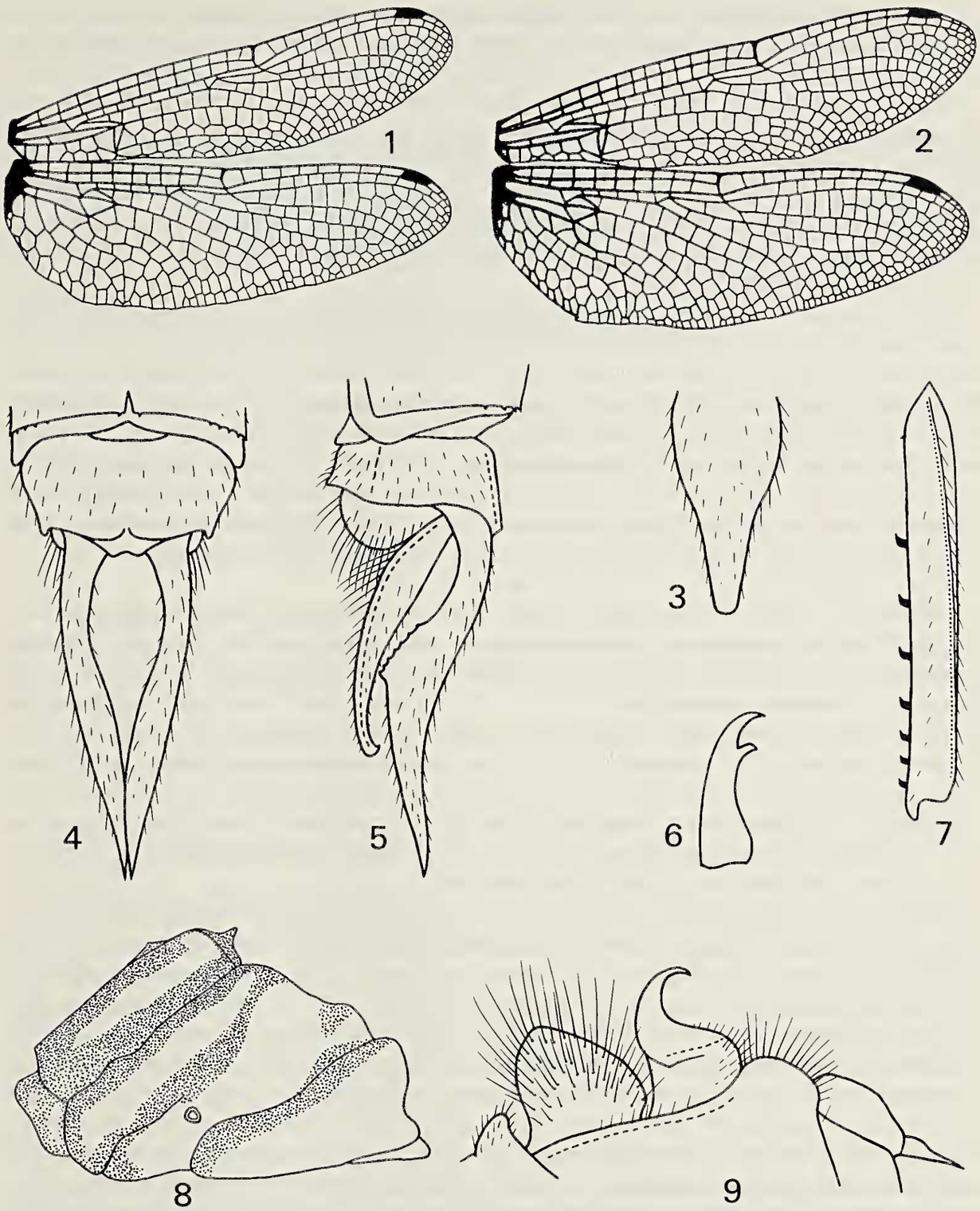
Labium yellowish brown with a median black band. Labrum largely yellow, its free borders black. Clypeus and lower part of frons green. Upper part of frons and vertex black with metallic bluish reflection. Antennae black. Occiput black brown above, yellowish brown posteriorly. Temporae yellowish brown.

Prothorax dark brown. Pterothorax dark brown with pale stripes, its colour pattern shaped as shown in figure 8. Pale antehumeral stripes greenish white, the three pale lateral stripes light green. Venter of pterothorax light green.

Legs black except for inner side of first femur which is green. Outer angle of third femur with 7 differentiated spines; these spines are short, stout, truncated, and directed proximad. Spines on outer angle of second femur also differentiated; these spines are short and thick but not truncated, and directed distad. Additional tooth of tarsal claws shorter than tip of claw itself.

Abdomen predominantly black brown to black. Sides of segments 1 and 2 largely light green. Segments 3 to 7 with brownish yellow dorsal side-lines which become successively shorter on the rear segments, being very small on segment 7. These stripes interrupted by the supplementary transverse carina on segment 3 and by the submedian transverse furrow on segment 4. Venter of terminal segments (except segment 10) with conspicuous brownish yellow longitudinal markings on either side. Abdomen slender at middle segments, in dorsal view becoming broader at segments 7 to 9. Caudal appendages black, shaped as shown in accompanying figures, the superiors as long as segments 9 and 10 together, the inferior as long as segment 9. Accessory genitalia shaped as shown in figure 9. Genital hamule with long end hook curved backwards, its base angular on outer sides.

Wings hyaline but flavescent at bases, especially in subcostal and cubito-anal interspaces and anal field of hind wings. Fore wings: 10½ (left) and 11½ (right) antenodals; 7 (right) and 8 (left) postnodals; arculus slightly distad of second antenodal; six paranal cells before subtriangle; costal side of discoidal triangle about two-fifths the length of proximal side; subtriangle free; a single cell between subtriangle and posterior margin of wing; trigonal interspace almost parallel-sided, slightly widened distally, with two rows of cells but with three (left) and four (right) small marginal cells. Hind wings: 8 antenodals in either hind wing; 7 (left) and 8 (right) postnodals; arculus between second and third antenodals; three paranal cells before anal loop; anal loop with a single row of cells on both sides of midrib and an extra cell in the "heel". Cu1 separated from hind angle of triangle. Trigonal interspace with two cells bordering triangle, followed by a single row of cells; two rows of cells between anal loop and posterior margin of wing.



Figs 1-9: *Macrothemis brevidens* spec. nov. 1, right pair of wings of male holotype; 2, the same of female allotype; 3, inferior caudal appendage of male, ventral view; 4, tenth abdominal segment and caudal appendages of male, dorsal view; 5, the same, left lateral view; 6, tarsal claw from left third leg of male; 7, left third femur of male, left lateral view; 8, left side of pterothorax of male holotype to show colour pattern; 9, accessory genitalia, left lateral view.

Female (allotype). — Total length 30 mm; abdomen 22 mm (incl. caud. app. 0.75 mm); hind wing 24.5 mm; costal edge of pterostigma in fore wing 1.6 mm.

Similar to male holotype in stature and coloration but middle segments of abdomen stouter. Hind femur with seven spines on outer angle, the ultimate distal spine about twice as long as penultimate spine. Superior caudal appendages about three-quarters the length of abdominal segment 9, more or less cylindrical and bluntly tipped. Lamina supra-analis well developed and

about two-thirds the length of superior caudal appendages. Superior surface of segment 10 and that of lamina supra-analis without hairs. Vulvar lamina very short, with a small median excision.

Wings coloured as in male holotype. Arculus distad of second antenodal, in hind wing somewhat more distad than in fore wing. Fore wings: 12½ (left) and 13½ (right) antenodals; 7 (left) and 8 (right) postnodals; costal side of discoidal triangle about one-third the proximal side; subtriangle free. Hind wings: 8 (left) and 9 (right) postnodals; anal loop with an extra cell in the "heel", consisting of 18 (right) and 20 (left) cells; trigonal interspace with two cells bordering triangle, followed by a single row of cells. Three rows of cells between anal loop and posterior margin of wing.

Male paratype (hind wings broken off but glued onto the thorax). — Dimensions as in holotype. Superficially very different from it owing to the clear wings. These are slightly flavescent at extreme bases only. Venation of wings less dense than in holotype. Fore wings: 9½ antenodal in either fore wing; 5 (left) and 6 (right) postnodals; arculus opposite (right) and slightly proximad (left) of second antenodal; costal side of discoidal triangle half as long as proximal side. Hind wings: 7 (right) and 8 (left) antenodals; 6 (left) and 7 (right) postnodals; arculus between second and third antenodals. Labium largely black, with transverse central yellow spot that is narrowed in middle. Third femora with 8 (right) and 9 (left) differentiated spines. Pale dorsal side-lines on abdominal segments much better developed than in holotype.

Discussion. — The present species belongs to the *tessellata* group. This intrageneric group is marked by having the tooth on the tarsal claws shorter than the tip of the claw itself. The other members of the group are *Macrothemis tessellata tessellata* (Burmeister, 1839) from eastern Brazil, *M. tessellata inequiunguis* Calvert, 1895 from Central-America, Colombia and Ecuador, and *M. valida* Navás, 1916 known only from a single male taken at the Rio Pedro Tal in Brazil. The male of *M. brevidens* is easily distinguished from these members in having longer superior caudal appendages; these are one and a half times the length of the inferior caudal appendage. The female of *M. brevidens* differs from *M. tessellata* in having the superior surface of the tenth abdominal segment and that of the lamina supra-analis bare; it is hairy in *M. tessellata*. The female of *M. valida* is still unknown.

Remark. — In 1909 Calvert erected the genus *Gynothemis* that, although similar in many ways to *Macrothemis* Hagen, differs from it in that the tooth on the tarsal claws is shorter than the tip of the claw itself while the male femora are armed like those of female *Macrothemis*. But as often happens, with new material comes trouble as some of the new taxa fail to conform the first definitions of genera. Here the discovery of aberrant species of *Macrothemis* and *Gynothemis* does raise doubts of the necessity for retaining *Gynothemis*. Of the four species referred to *Gynothemis*, *heteronycha* (Calvert) has a femoral armature that can be compared in conformation with that of *Macrothemis musiva* (Hagen) while *Gynothemis calliste* Ris is known from the female sex only. In my opinion, the knowledge of the corresponding male is necessary to determine the ultimate allocation of certain females into one of the two genera *Macrothemis* and *Gynothemis*. The femoral spines of the males are not differentiated in the two *Gynothemis* species *venipunctata* Calvert and *uniseta* Geijskes. To place the members of *Gynothemis* into a species group (the *venipunctata* group) within the limits of the genus *Macrothemis* is a considered and perhaps more satisfying alternative.

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6TH INTERNATIONAL CONGRESS OF MYRIAPODOLOGY. Dit congres zal, onder auspiciën van het Centre International de Myriapodologie te Parijs, worden gehouden in Amsterdam van 12 tot 17 april 1984. Evenals de voorgaande congressen is ook dit congres aan het onderzoek van Diplopoda, Chilopoda, Pauropoda, Symphyla en Onychophora gewijd, en wel in de breedst mogelijke zin: van systematiek en biogeografie tot cytologie en fysiologie.

Belangstellenden kunnen nadere inlichtingen verkrijgen bij dr. C. A. W. Jeekel, Instituut voor Taxonomische Zoölogie, Postbus 20125, 1000 HC Amsterdam.

THORP, R. W., D. S. HORNING Jr. & L. L. DUNNING, 1983. BUMBLE BEES AND CUCKOO BUMBLE BEES OF CALIFORNIA (HYMENOPTERA: APIDAE). — Bulletin of California Insect Survey 23: VIII + 86 pp, 168 figuren en foto's. University of California Press. Prijs (ingenaaid) $ 19,—.

In California vindt men 24 soorten van het geslacht *Bombus* (verdeeld over niet minder dan 9 subgenera), en 3 soorten *Psithyrus*. In het onderhavige deeltje vindt men tabellen tot subgenera en soorten. Per soort is er een indicatie van de globale verspreiding, een lijst met verspreidingsgegevens, een verspreidingskaartje (binnen California en, ruwer, binnen Noord Amerika), een lijstje van drachtplanten en overige biologische bijzonderheden. De kleurtekening is schematisch getekend, veelal zijn er details afgebeeld van genitaliën en andere differentiërende kenmerken.

In de inleiding komen nog onderwerpen als mimicry, domesticatie, nestcommensalen en biogeografie ter sprake. — W. N. Ellis

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HERRERA, L., 1982. CATALOGUE OF THE ORTHOPTERA OF SPAIN. — Series entomologica 22: I-VIII, 11-162; ca. 450 referenties, index 27 kolommen. ISBN 90-6193-131-2. Dr. W. Junk uitg., Den Haag. Prijs (gebonden) *f* 85,—.

Voor de warmte-, en meestal ook wat droogteminnende sprinkhanen is Spanje, naast het Balkanschiereiland, zeker het soortenrijkste gebied dat er in Europa te vinden is. In dit geografisch beperkte gebied komen niet minder dan 345 soorten voor. Veel ervan zijn nog maar relatief kort geleden beschreven, en zeer veel soorten zijn in hun voorkomen beperkt tot het Iberisch schiereiland of zelfs een klein deel ervan. Ik moet hier overigens meteen aan toevoegen dat het bovengenoemde getal ook de soorten omvat van Balearen en Canarische eilanden, twee gebieden die in hun biota sterk met het Iberisch schiereiland verwant zijn, al hebben ze ook veel eigen elementen.

Na een catalogus van Bolívar die in 1897/9 werd gepubliceerd over de Iberische Orthoptera (en, minder gericht, de Orthopterenfauna van Europa van Harz, eveneens in de Series entomologica verschenen) is hier dan weer een samenvattend overzicht over de literatuur betreffende de sprinkhanen van Spanje. (In de catalogus zijn slechts de Orthoptera in engere zin opgenomen.)

Voor iedere soort wordt de verspreiding (binnen Iberia gedetailleerd, daarbuiten meer globaal) alsmede de literatuur aangegeven. De literatuur is gegroepeerd in een aantal rubriekjes: beschrijving, anatomie, biologie, genetica, fysiologie, oecologie, classificatie, verspreiding en opsomming in een catalogus. Dat het boek eigenlijk in het Spaans geschreven is merk je alleen aan de inleiding. De soorten worden behandeld binnen een geaccepteerd taxonomisch verband, dat niet bediscussieerd wordt. Dat, en het feit dat de auteur geen grote belangstelling lijkt te hebben voor nomenclatuur, zal niet iedereen verheugen; de bruikbaarheid van het boek zal er weinig onder lijden (er is trouwens een uitstekende index, op soorts- en genus-namen, en zelfs op hogere eenheden). Het boek is plezierig sober verzorgd, en relatief goedkoop.
— W. N. Ellis.